Qualitative Research: From Design through Dissemination

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Acknowledgements

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Disclosures

We have nothing to disclose

Objectives

1. Identify opportunities for utilizing qualitative methods in pediatric hospital medicine research

2. Describe approaches to qualitative research design, analysis and dissemination

3. Formulate a qualitative research plan relevant to pediatric hospital medicine
Workshop Agenda

1. Why use qualitative research methods in PHM?
2. Identifying a research question
3. Break
4. Sampling and data collection
5. Opportunities for family engagement
6. Data analysis
7. Break
8. Disseminating your work
9. Personal research goals & approach
10. Wrap-up

What are qualitative methods?

• Collection of methods used to gain an in-depth understanding of human behavior and social processes

• Examine the “why” and “how”, not just “what”, “where”, “when” and “who”

• Describe a constellation of study designs and evaluation approaches
Purposes of Qualitative Research

- Provide rich descriptions of complex phenomena
- Tracking unique or unexpected events
- Characterize the experience and interpretation of events by stakeholders with differing roles
- Giving voice to those whose views are rarely heard
- Conducting initial explorations to develop theories and hypotheses

Sofaer, HSR, 1999

“If we focus research only on what we already know how to quantify...we risk ignoring factors that are more significant in explaining important realities and relationships...The use of these methods tends to...”

Sofaer, HSR, 1999
### Qualitative Research | Quantitative Research

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**In Pursuit of Meaningful Use of Learning Goals in Residency: A Qualitative Study of Pediatric Residents**

Tai M. Lockspeiser, MD, MPH, Su-Ting T. Li, MD, MPH, Ann E. Burke, MD, Adam A. Rosenberg, MD, Alston E. Dunbar III, MD, MBA, Kimberly A. Gifford, MD, Gregory H. Gorman, MD, MHS, John D. Mahan, MD, Michael P. McKenna, MD, Suzanne Reed, MD, Alan Schwartz, PhD, Ilene Harris, PhD, and Janice L. Hanson, PhD, EdS


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**Association of Women Surgeons**

**Attrition from surgical residency training: perspectives from those who left**

The Family Perspective on Hospital to Home Transitions: A Qualitative Study

Caregiver Perceptions of Hospital to Home Transitions According to Medical Complexity:
A Qualitative Study
Arti D. Desai, MD, MSPH; Lindsay K. Durkin, BA; Elizabeth A. Jacob-Files, MA, MPH;
Rita Mangione-Smith, MD, MPH

Families’ Priorities Regarding Hospital-to-Home Transitions for Children With Medical Complexity
Joanna K. Leyenauer, MD, MPH, MSc; Emily R. O’Brien, MSN, RN, CNL; Laurel K. Leslie, MD, MPH; Peter K. Lindauer, MD, MSc; Rita M. Mangione-Smith, MD, MPH
Disclaimer

• Qualitative research is rigorous scientific approach

• Requires collaboration with a trained qualitative methodologist to do well (as is similar in quantitative methods)

• Providing an introductory talk today

Credit to Tom Mackie, PhD, Rutgers University

Identifying a research question

“Qualitative research involves any research that uses data that do not indicate ordinal values.” – Nkwi, Nyamo.
General considerations

• How much is known about the topic?

• **Depth** versus breadth
  - More detail
  - Unanticipated information

• Explain the
• correlation

Research objectives

• To ________?

<table>
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<tr>
<th>Qualitative</th>
<th>Combo</th>
<th>Quantitative</th>
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</thead>
<tbody>
<tr>
<td>Identify</td>
<td>Evaluate</td>
<td>Measure</td>
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<tr>
<td>Explore</td>
<td>Assess</td>
<td>Test</td>
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<tr>
<td>Describe</td>
<td></td>
<td>Determine how many</td>
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<tr>
<td>Explain</td>
<td></td>
<td>Compare</td>
</tr>
</tbody>
</table>
Identifying and exploring

• Identify items in a conceptual domain
  – First step in establishing inquiry validity
  – e.g. barriers and facilitators of filling a prescription

• Generating lists of items and investigating topics—why?
  – Flexible
  – e.g. how problematic or fixable are the issues identified during the “Identify” phase

Describing

• Describe identified items in depth (as much as possible)
  – Who, what, when, where, why and how to overcome/improve?
  – Various dimensions—psychological, familial, political-economic, cultural, etc.

• Complex processes
Explaining: motives, values and causes

- How/why individuals do (or don’t do) certain things
- How social systems function
- Relationship between 2+ processes

- Why not undergo a vasectomy?
  - Fear of pain or being emasculated
    - Intimidated by needle/scalpel in the groin, NOT by the actual procedure

  No-needle and no-scalpel vasectomies!

Option:

evaluating/assessing

- Qualitative or quantitative (or both!)

- Program or product evaluation
  - Tell the participants’ stories
When NOT to use!

- Time-constrained
- Goal: Describe variation across a population
  - Sample sizes small
  - Diminished ability to claim a representative sample
  - Cannot generalize statistically
- Goal: To compare groups
  - Hard to reliably compare themes between groups

After you have a question...

- Choose your qualitative approach (more on these later)
- Select data collection method
Small-group activity

• Break into groups based on area of interest
  – Health services/Clinical research
  – Medical education
  – Quality improvement
• Pick a general topic area of interest and develop this into a feasible research question that would lend itself well to qualitative methods
• Report to larger group

BREAK
Data Collection Methods

- Interviews
- Focus group discussions
- Document review
- Observation
- Mixed methods approaches (ie. validated survey and interview)

Sampling and data collection

- Researchers using qualitative methods do not choose participants for their generalizability, but for their (often unique) experience with the area of interest

- Number of research participants necessary for a rigorous qualitative study is often fewer than the numbers needed to achieve validity and reliability in a quantitative study
Sampling Strategies

- Rule of thumb: continue sampling until you’re no longer getting new information or insights

- Sampling strategy is a very important component of study design

- Design consideration – are you looking for:
  - Typical or majority view
  - Full range of views, perspectives, experiences
  - Supplemental views or perspectives from understudied populations

Random Sampling: least desirable approach

Purposeful Sampling: participants are selected based on pre-established criteria informed by the research question. Sample size may be predetermined or based on theoretical saturation. Includes critical case sampling, maximum variation sampling

Snowball Sampling (aka chain referral sampling): Participants refer the researcher to others who may be able to potentially contribute or participate in the study
Question guides

- Questions should align with your objective
- Develop areas of inquiry and associated probes
- Pilot test
- Evolve over time

When Can We Engage Families in Research?

At All Stages

- Determining research question/outcomes
- Recruitment
- Study design and maintenance
- Data Analysis
- Publishing
- Dissemination
Applying Principles to Qualitative Research

- Deciding research question
- Refining study guide
- Recruiting focus group participants
  - Social media
    - E.g., disease-specific networks
  - Focus group facilitators
- Piloting study guide questions
- Coding and analyzing Data
- Presenting/Publishing

Finding Family Partners

- Family Advisory Council contacts
- Disease-specific networks
- Social media
- National family advocates
- Word of mouth
- Community Outreach:
  - Religious Groups
  - Sports
  - Schools
  - Parks
Considerations

- Diversity
- Low English Proficiency
- Health Literacy

Health Literacy

- Be mindful of how you phrase questions
- Use plain language, not medical jargon (fever vs. febrile; medicine vs. medication)
- Be thoughtful of vocabulary, sentence structure, “multiple-multiples”
  - Consider using Readability tools to assess literacy of interview guides, consent forms, any written materials (e.g., Flesch-Kincaid)
    - 6th to 8th grade level for average reader
    - 4th to 5th grade level for patients with low literacy skills
Practical Tips

• Work with Family and Patient Advisors
• Debrief with families about improving your qualitative approach
  - Focus groups
  - Interview feedback
• Attend trainings (invite families too!)
  - Family presenters
• Apply lessons to your institution
  - Help other research teams increase family involvement
  - Implement a framework to engage families (customize to each study: e.g., size, scope, resources)
Group Exercise

Consider the following

Pass the Mic
Qualitative methods/approaches

- Content analysis
- Thematic analysis
- Ethnography
- Grounded theory
- Phenomenology
- Discourse/conversation analysis

Ethnography

- “To write about a group of people”
- Emic perspective
- Shared meanings and practices

- **Purpose:** To define the problem
- **Study procedures:** Participant observation, informal interviews
- **Data:** Field notes, photos, videos
- **Analysis:** Descriptive analysis of the “scene”
**Phenomenology**

- The study of conscious experience
  - Focuses on individual experiences, beliefs and perceptions

- **Purpose:** To describe the “lived experience”
- **Study procedures:** Very in-depth individual interviews about experience in narrative form (what are they seeing, hearing, feeling, touching, etc.)
- **Data:** Transcripts from interviews (stories of experiences)
- **Analysis:** Describe the core commonalities and structures of the experience by identifying descriptions of the phenomenon and categorization

**Discourse/conversation analysis**

- Study of “naturally-occurring” discourse

- **Purpose:** To analyze “language-in-use”
- **Study procedures:** Observe participants as they engage in natural conversation about a topic (e.g. Facebook feed)
- **Data:** Transcripts of conversations; Existing media
- **Analysis:** Identify identities, activities, relationships and meaning of words through analysis of conversations/language-in-use, can include dissections of words/phrases/tones
Typology of qualitative findings

Content analysis

- **Purpose:** To analyze written, audio or visual content
- **Study procedures:** Individual interviews; Focus groups; Obtain textual, audio or visual data
- **Data:** Transcripts from interviews or focus groups; Text, audio files or videos
- **Analysis:** Descriptive analysis of content (main categories of content, word counts); Develop codebook; Directed content analysis (applying content to an existing framework)
Grounded theory

- Constant comparison method
- **Output:** Theoretical model
- **Purpose:** To create a theoretical framework; “theory”
- **Study procedures:** Individual interviews; Focus groups; Revise interview guide as study progresses
- **Data:** Transcripts from interviews or focus groups
- **Analysis:** Identify themes, relationships between themes, causal inferences to build theoretical (explanatory) framework; Simultaneously occurring with data collection; Theoretical saturation (exhaustive, negative case analysis)

Thematic analysis

- Identify and code emergent themes within the data
- **Purpose:** To analyze concepts and how they relate to each other
- **Study procedures:** Individual interviews; Focus groups; Obtain textual, audio or visual data; Revise interview guide as study progresses
- **Data:** Transcripts from interviews or focus groups; Text, audio files or videos
- **Analysis:** Identifying main concepts and relationships between concepts; Build conceptual framework; Develop codebook and iteratively revise; Simultaneously occurring with data collection (more rigorous); Thematic saturation (until defined themes capture the
Thematic network

- **Basic**: lowest-order premises evident in the text
- **Organizing**: basic into clusters of similar issues
- **Global**: together present a position/argument/assertion about an issue

Steps to complete a thematic network analysis:

**Stage 1: Reduce the data**

- Devise a coding framework
- Dissect text using framework

- Abstract themes from coded text
- Refine themes

- Arrange themes
- Select basic -> rearrange into organizing -> deduce global
- Illustrate thematic networks -> verify/refine networks

Attride-Stirling, 2001
Step to complete a thematic network analysis:
Stage 1: Reduce the data

- Devise a coding framework
- Dissect text using framework

• Code=Word or short phrase captures the essence or meaning of data (assign #)
• Coding= An interpretative task, transitional process between data collection and analysis
• Coding enables grouping of similarly coded data into families, groups

Example

A: We have an upstream delivery method, primarily to retailers, a 3rd party vendor keeps track and sends the bulbs out. The idea is to lower the price on shelves. The major constraint is its difficult to know our customer- hard to evaluate who is buying the bulb and what sockets they are putting them into. However there are some advantages. We can control consumer choice, working with retail partners, we have dominant displays of incentivized bulbs. Yet we think EISA is going to really impact future savings...

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Excerpt</th>
<th>Code</th>
<th>Themes or Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Upstream delivery method</td>
<td>UP</td>
<td>Type of Program</td>
</tr>
<tr>
<td>1</td>
<td>Constraint is its difficult to know our customers</td>
<td>NEG</td>
<td>Weaknesses of Program</td>
</tr>
<tr>
<td>1</td>
<td>Control consumer choice</td>
<td>POS</td>
<td>Strengths of Program</td>
</tr>
<tr>
<td>1</td>
<td>EISA is going to really impact future savings</td>
<td>EISA</td>
<td>Impact of EISA</td>
</tr>
</tbody>
</table>

Steps to complete a thematic network analysis:

**Stage 1: Reduce the data**

- Code material
  - Devise a coding framework
  - Dissect text using framework

- Identify themes
  - Abstract themes from coded text
  - Refine themes

- Construct thematic networks
  - Arrange themes
  - Select basic → rearrange into organizing → deduce global
  - Illustrate thematic networks → verify/refine networks

Attride-Stirling, 2001

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Steps to complete a thematic network analysis:

**Stage 2: Describe/explore thematic networks**

- Describe the network
- Explore the network

**Stage 2b: Summarize networks**

- Summary of themes and patterns

**Stage 3: Interpret patterns**

- Return to original research questions
- Address these with arguments grounded on the patterns that emerged in the exploration of the texts

Attride-Stirling, 2001
Computer assisted qualitative data analysis software

- Nvivo 10  [www.qsrinternational.com](http://www.qsrinternational.com)
- Atlas.ti  [www.atlasti.com](http://www.atlasti.com)
- CAT  [cat.ucsur.pitt.edu](http://cat.ucsur.pitt.edu)
- Dedoose  [www.dedoose.com](http://www.dedoose.com)
- DiscoverText  [www.discovertext.com](http://www.discovertext.com)
- AnSWR  [www.cdc.gov](http://www.cdc.gov)
- Qualrus  [www.qualrus.com](http://www.qualrus.com)
Dedoose

Project: Transition to Home Project

- Users: 2
- Managers: 1
- Description: 3
- Exports: 65
- Code Applications: 65

Codes
- barriers rest code
  - PCP: took hard post discharge paper...no
  - severe action plan used - no
  - balancing family work, child's meds...
  - child doesn't follow parents' direction...

- 0006_0106
  - Patient: Patient A

- 0006_0106
  - Program Design: Caregiver
  -ouch type: Home Health Professional

Descriptive Ratio
- Participant Type: 100%
- Health Professional: 100%

Sample from Document 0006_0106

Q: And do you think you have a good handle on knowing what those signs are?
A: I think so.
Q: It sounds like you have been...

00:04:18
A: I think so, yeah. Because she's on the med, and it's as needed. So sometimes it's not as needed when maybe cough syrup or some Tylenol will help. Until I use the other stuff, or if it's engaging. Then that's when I refer to the...
Small Group Exercise

• Select a research method +/- analytic approach for the question you developed earlier
• Refine question as needed
• Large group report back

BREAK
Disseminating Qualitative Research

• Conferences

• Journals:
  – Academic Pediatrics
  – Academic Medicine
  – Hospital Pediatrics
  – Pediatrics
  – Journal of Pediatrics
  – BMC Quality & Safety

Qualitative Abstracts at the Pediatric Academic Societies Meeting: Are They Less Likely to be Accepted for Presentation?

Eve R. Colson, MD; Benard P. Dreyer, MD; Janice L. Hanson, PhD; Linda Tewksbury, MD; Matthew Johnson, PhD; Glenn Flores, MD

ACADEMIC PEDIATRICS
2013;13:140–144
Comments from Reviewers

“How generalizable are the findings given that this is all from a single study? Furthermore, the number of interviews seemed small.”

“A total of 30 subjects seems way too small…”

“The Results section is too long and redundant in many places. State the facts without discussion”

“I acknowledge that it's very difficult to write Results for a qualitative paper, but as written the Result section seems like a narrative of the authors' impressions as opposed to a clear description of the study's findings.”

Tips and Tricks in Optimizing Publication Quality

• Collaborate with a qualitative methodologist
• Avoid use of qualitative research jargon
• Cite established qualitative research sources (ie. textbooks)
• Make substantial efforts not to editorialize your results
• Present quotes in tables and less so in the narrative
Developing your own qualitative research

- Small group exercise

Conclusions & Questions & Thank you!!